

Amendments to the Specification:

Please replace paragraph [0016] with the following amended paragraph:

[0016] FIG. 1 shows a first embodiment of the invention with a close-up view shown in FIG. 1A.

Please replace paragraph [0026] with the following amended paragraph:

[0026] FIG. 11 is a cross sectional view showing a second embodiment of the invention with a close-up view shown in FIG. 11A.

Please replace paragraph [0027] with the following amended paragraph:

[0027] FIG. 12 is a cross sectional view showing a third embodiment of the invention with a close-up view shown in FIG. 12A.

Please replace paragraph [0028] with the following amended paragraph:

[0028] FIG. 13 is a cross sectional view showing a fourth embodiment of the invention with a close-up view shown in FIG. 13A.

Please replace paragraph [0029] with the following amended paragraph:

[0029] FIG. 14 is a cross sectional view ~~[[for]]~~ showing a fifth embodiment of the invention with a close-up view shown in FIG. 14A.

Please add the following new paragraph after paragraph [0029].

FIG. 15 is a cross sectional view showing a sixth embodiment of the invention with a close-up view shown in FIG. 15A.

Please replace paragraph [0036] with the following amended paragraph:

[0036] FIG. 1 shows the first embodiment of the present invention with a close-up view shown in FIG. 1A. A lower gap layer G1 such as formed of Al₂O₃ is formed on a lower

shield S1 such as formed of NiFe, an antiferromagnetic film 12 such as formed of PtMn is stacked on an underlying layer 11 such as formed of Ta, and a stacked ferrimagnetic pinned layer 20 comprising a stack of magnetic films 21, 22 such as formed of NiFe sandwiching Ru therebetween as an intermediate layer 23 is shown thereon as a pinned layer. A non-magnetic conduction layer 13 such as formed of Cu is stacked on the pinned magnetic layer 20 and a free layer 30 is formed on the non-magnetic conductive layer 13. The free layer is a stacked ferrimagnetic free layer 30 having a first magnetic layer 31 and a second magnetic layer 33 which sandwich a non-magnetic intermediate layer 32 such as formed of Ru therebetween and, further, a protective film 14 such as formed of Ta is stacked thereon.

Please replace paragraph [0045] with the following amended paragraph:

[0045] FIG. 11 shows the second embodiment of the present invention with a close-up view shown in FIG. 11A. The first embodiment concerns the bottom spin valve structure, whereas the second embodiment concerns a top spin valve structure. A lower gap layer G1 such as formed of Al₂O₃ is formed on a lower shield S1 such as formed of NiFe, and a free layer 30 is formed on an underlying layer 11 such as formed of Ta. The free layer comprises a first magnetic layer 31 and a second magnetic layer 33 which sandwich therebetween a non-magnetic intermediate layer 32 such as formed of Ru. The first magnetic layer 31 is formed of a ferromagnetic material and formed, for example, of a NiFe alloy, Co, a CoNiFe alloy, CoFe alloy or CoNi alloy. Further, the non-magnetic intermediate layer is formed of one of Ru, Rh, Ir, Cr, Re or Cu or an alloy thereof. The second magnetic layer 33 comprises a diffusion preventive layer and a ferromagnetic material, and the ferromagnetic material comprises, for example, a NiFe alloy, Co, a CoNiFe alloy, CoFe alloy or CoNi alloy. Further, the diffusion preventive layer is also formed of a NiFe alloy, Co, a CoNiFe alloy, CoFe alloy or CoNi alloy. While not illustrated, a second free layer as a free layer other than the free layer 30 can be attained in the same manner as in the first embodiment.

Please replace paragraph [0047] with the following amended paragraph:

[0047] FIG. 12 shows a third embodiment with a close-up view shown in FIG. 12A. While the spin valve type GMR head is shown in the first and second embodiments, a similar effect can be obtained also in a TMR head or CPP-GMR head. The third embodiment shows an example of a tunnel effect type magnetoresistive head.

Please replace paragraph [0051] with the following amended paragraph:

[0051] FIG. 13 shows a fourth embodiment with a close-up view shown in FIG. 13A. While the third embodiment shows the TMR head of a bottom spin valve structure, the fourth embodiment shows a TMR head of a top spin valve structure. On a lower shield S1 serving also as a lower electrode formed, for example, of NiFe, an underlying layer 11 formed, for example, of Ta and a free layer 30 are formed. The free layer is a stacked ferrimagnetic free layer comprising a first magnetic layer 31 and a second magnetic layer 33 with a non-magnetic intermediate layer 32 such as formed of Ru being sandwiched therebetween. The first magnetic layer 31 is formed of a ferromagnetic material and it is formed, for example, of a NiFe alloy, Co, a CoNiFe alloy, a CoFe alloy or a CoNi alloy. Further, the non-magnetic intermediate layer is formed of one of Ru, Rh, Ir, Cr, Re and Cu, or an alloy thereof. The second magnetic layer 33 comprises a diffusion preventive layer and a ferromagnetic material and the ferromagnetic material is formed, for example, of a NiFe alloy, Co, a CoNiFe alloy, CoFe alloy or CoNi alloy. Further, the diffusion preventive layer is also formed, for example, of a NiFe alloy, Co, a CoNiFe alloy, CoFe alloy or CoNi alloy. Although not illustrated, the second free layer as a free layer other than the free layer 30 can also be provided like the third embodiment.

Please replace paragraph [0053] with the following amended paragraph:

[0053] FIG. 14 shows the fifth embodiment with a close-up view shown in FIG. 14A. While descriptions have been made of the TMR head in the third and fourth embodiments but a similar effect can also be obtained in CCP(Current Perpendicular to Plane)-GMR.

Please replace paragraph [0057] with the following amended paragraph:

[0057] FIG. 15 shows a sixth ~~[[Embodiment]]~~ embodiment with a close-up view shown in FIG. 15A. The fifth embodiment shows the CCP-GMR head of the bottom spin valve structure, the sixth embodiment shows a CCP-GMR head of a top spin valve structure. On a lower shield S1 serving also as a lower electrode formed, for example, of NiFe, an underlying layer 11 formed, for example, of Ta and a free layer 30 are formed. The free layer comprises a first magnetic layer 31 and a second magnetic layer 33 with a non-magnetic intermediate layer 32 such as formed of Ru being sandwiched therebetween. The first magnetic layer 31 is formed of a ferromagnetic material and it is formed, for example, of a NiFe alloy, Co, a CoNiFe alloy, CoFe alloy or CoNi alloy. Further, the non-magnetic intermediate layer is formed of one of Ru, Rh, Ir, Cr, Re and Cu, or an alloy thereof. The second magnetic layer 33 comprises a diffusion preventive layer and a ferromagnetic material and the ferromagnetic material is formed, for example, of and a NiFe alloy, Co, a CoNiFe alloy, CoFe alloy or CoNi alloy. Further, the diffusion preventive layer is also formed, for example, of a NiFe alloy, Co, a CoNiFe alloy, CoFe alloy or CoNi alloy. The second free layer (not illustrated) can be provided like the fifth embodiment.